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EXAMINER	
LINDLOF, JOHN M	

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2183	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/814,312	ALDRICH ET AL.	
	Examiner	Art Unit	
	JOHN LINDLOF	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-36 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9, 11-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paver et al., US Patent Application Publication 2004/0034760 (hereinafter Paver) in view of Symes et al., US Patent Application Publication 2002/0040378 (hereinafter Symes).

The following is quoted directly from the MPEP and will be used in reference to the rejection of Claims 1-5 below:

If the difference between the prior art and the claimed invention is limited to descriptive material stored on or employed by a machine, Office personnel must determine whether the descriptive material is functional descriptive material or nonfunctional descriptive material, as described supra in paragraphs IV.B.1(a) and IV. B.1(b). Functional descriptive material is a limitation in the claim and must be considered and addressed in assessing patentability under 35 U.S.C. 103. Thus, a rejection of the claim as a whole under 35 U.S.C. 103 is inappropriate unless the functional descriptive material would have been suggested by the prior art. In re Dembiczak, 175 F.3d 994, 1000, 50 USPQ2d 1614, 1618 (Fed. Cir. 1999). Nonfunctional descriptive material cannot render nonobvious an invention that would have otherwise been obvious. In re Ngai, **>367 F.3d 1336, 1339, 70 USPQ2d 1862,

1864 (Fed. Cir. 2004) (combining printed instructions and an old product into a kit will not render the claimed invention nonobvious even if the instructions detail a new use for the product).< Cf. In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983) (when descriptive material is not functionally related to the substrate, the descriptive material will not distinguish the invention from the prior art in terms of patentability). Common situations involving nonfunctional descriptive material are: - a computer-readable storage medium that differs from the prior art solely with respect to nonfunctional descriptive material, such as music or a literary work, encoded on the medium, - a computer that differs from the prior art solely with respect to nonfunctional descriptive material that cannot alter how the machine functions (i.e., the descriptive material does not reconfigure the computer), or - a process that differs from the prior art only with respect to nonfunctional descriptive material that cannot alter how the process steps are to be performed to achieve the utility of the invention. Thus, if the prior art suggests storing a song on a disk, merely choosing a particular song to store on the disk would be presumed to be well within the level of ordinary skill in the art at the time the invention was made. The difference between the prior art and the claimed invention is simply a rearrangement of nonfunctional descriptive material.

2. As per claim 1, Paver teaches:

A method of executing an instruction comprising: receiving residual data of a first image and decoded pixels of a second image (the origin of data received is non-functional descriptive material as described above, which has no effect on the process as claimed, Paver teaches receiving data such as operands in fig. 11); adding a plurality of signed data operands of the residual data to the plurality of unpacked data operands producing a plurality of signed results (para. [0099] – [102], fig. 11, wRm operands, ele. 1115-8, are added to wRn operands, ele. 1111-4, to produce a plurality of signed results; wRm operands extended in view of the combination with Symes are unpacked data operands); saturating the plurality of signed results producing a plurality of unsigned results (para. [0099] – [102], fig. 11, the plurality of results are saturated and stored in wRd; saturation may be signed or unsigned).

Paver fails to explicitly teach: zero-extending a plurality of unsigned data operands of the decoded pixels producing a plurality of unpacked data operands.

Symes teaches zero-extending a plurality of unsigned data operands to produce a plurality of unpacked data operands (see e.g. fig. 1, p2 and p0 are zero extended).

Paver discusses adding 8-bit data to 16-bit data. In a sense, each 8-bit element (fig. 11 ele. 1115-8) can be considered zero extended because nothing is added to the upper 8-bits of the 16-bit elements (fig. 11 ele. 1111-4). However, Paver does not explicitly recite zero extension.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Paver and Symes to zero-extend a plurality of unsigned data operands to produce a plurality of unpacked data elements. This would have incorporated the known functionality of adding zero to a value in order to achieve the predictable result of not changing the value.

3. As per claim 2, Paver in view of Symes teaches:

The method as recited in claim 1, wherein the residual data comprises data results from an inverse discrete cosine transform (DCT) operation and the second image comprises a previously decoded video frame (the type of data received is non-functional descriptive material as described above, which has no effect on the process as claimed).

4. As per claim 3, Paver in view of Symes teaches:

The method as recited in claim 1, wherein the second image is an earlier decoded block from a same video frame as the first image (the type of data received is

non-functional descriptive material as described above, which has no effect on the process as claimed).

5. As per claim 4, Paver in view of Symes teaches:

The method as recited in claim 1, wherein the zero-extending, the adding and the saturating are part of a video estimation function (the name given to the process is non-functional descriptive material as described above, which has no effect on the process as claimed).

6. As per claim 5, Paver in view of Symes teaches:

The method as recited in claim 1, wherein the zero-extending, the adding and the saturating are part of a video compensation function (the name given to the process is non-functional descriptive material as described above, which has no effect on the process as claimed).

7. As per claim 6, Paver in view of Symes teaches:

The method as recited in claim 1, wherein the instruction is a Single-Instruction/Multiple-Data (SIMD) instruction (para. [0099]).

8. As per claim 7, Paver in view of Symes teaches:

The method as recited in claim 1, wherein the method comprises executing a Single-Instruction/Multiple-Data (SIMD) instruction (fig. 11, para. [0099]).

9. As per claim 8, Paver in view of Symes teaches:

The method as recited in claim 1, wherein the method is performed utilizing Single-Instruction/Multiple-Data (SIMD) circuitry (fig. 11, para. [0099]).

10. Claims 9, 11-13 are rejected for reasons corresponding to those given above for claims 1-2, 5, 6.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paver in view of Symes, further in view of an alternate embodiment of Paver.

11. As per claim 10, Paver in view of Symes fails to explicitly teach performing an OR operation on result data, and storing the result data in a single register.

An alternate embodiment of Paver teaches performing an OR operation and storing the result in a register (see e.g. para. [0129-30], fields 717-710 are ORed and the result is written to a flag register).

Examiner asserts the performing an OR operation on two data elements is extremely common in the art. At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Paver and Symes with an alternate embodiment of Paver to perform an OR operation on two data elements. This would have incorporated the known functionality of performing an OR operation in order to achieve the predictable result of creating a value given by the result of performing an OR operation on two elements.

12. Claims 14-15 are rejected for reasons corresponding to those given above for claim 1.

13. As per claim 16, Paver in view of Symes teaches:

The apparatus as recited in claim 14, wherein the plurality of adders comprises four 16-bit adders (fig. 11, para. [0099]).

14. As per claim 17, Paver in view of Symes teaches:

The apparatus as recited in claim 14, wherein selection controls for the first plurality of multiplexers is according to a qualifier specified in a Single-Instruction/Multiple-Data (SIMD) instruction (para. [0102]).

15. As per claim 18, Paver in view of Symes teaches:

The apparatus as recited in claim 14, wherein configuration of the first plurality of multiplexers, the plurality of adders, and the plurality of saturation units is selected according to microcode identified by a Single-Instruction/Multiple-Data (SIMD) instruction (fig. 11, para. [0102]).

16. As per claim 19, Paver in view of Symes teaches:

The apparatus as recited in claim 14, wherein configuration of the first plurality of multiplexers, the plurality of adders, and the plurality of saturation units is selected according to decode logic and a Single-Instruction/Multiple-Data (SIMD) instruction (fig. 11, para. [0099]).

17. As per claim 20, Paver in view of Symes teaches:

The apparatus as recited in claim 14, wherein the first plurality of multiplexers, the plurality of adders, and the plurality of saturation units form a Single-Instruction/Multiple-Data (SIMD) instruction execution circuit (fig. 11).

18. Claims 21-22 are rejected for reasons corresponding to those given above for claims 2, 5.

19. Claims 23-29 are rejected for reasons corresponding to those given above for claims 14-22.

20. Claims 30-36 are rejected for reasons corresponding to those given above for claims 14-22.

Response to Arguments

Applicant's arguments filed 2/27/2009 have been fully considered but they are not persuasive.

Applicant states: "Applicant respectfully submits that the cited MPEP language on page 2 of the Office Action is directed to functional v. non-functional language as it pertains to § 103 obviousness rejections. Applicant submits, however, that the rejections presented in the Office Action are all § 102 anticipation rejections. Consequently, Applicant respectfully requests clarification of the purpose for citing the selected MPEP sections in relation to the current claim rejections."

The section of the MPEP was cited to explain the lack of functionality for several of the claimed limitations. An example is given in the cited section, which explains that "when descriptive material is not functionally related to the substrate, the descriptive material will not distinguish the invention from the prior art in terms of patentability". A number of limitations of the cited claims do not provide functionality in order to distinguish the invention from the prior art.

Applicant states: "Applicant respectfully submits that claim 1 defines over Paver. Paver, arguably, teaches a method and apparatus for storing SIMD saturation histories. More particularly, Paver at the give cite, arguably teaches a SIMD mixed mode addition operation. Applicant submits, however, that the method described in Paver fails to disclose the use of residual data of any kind as required by claim 1."

Examiner respectfully disagrees. Applicant has argued that Paver fails to disclose the use of residual data. This seemingly requires a limiting interpretation or definition of "residual data", however applicant has not provided a reason as to why residual data has not been taught. Further, an explicit and deliberate definition has not been provided in applicant's specification in order to provide a definite interpretation. Therefore, in light of the limited explanation of "residual data" provided in the specification, the examiner has used a broadly reasonable interpretation of "residual

data" as data which remains, or is stored. Paver teaches receiving and adding stored data (see e.g. para. [0099] – [102]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN LINDLOF whose telephone number is (571)270-1024. The examiner can normally be reached on Monday-Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eddie P Chan/
Supervisory Patent Examiner, Art Unit 2183

John Lindlof
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